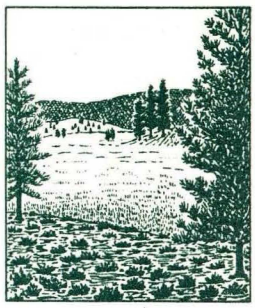
FOREST RESEARCH NOTES

CALIFORNIA FOREST AND RANGE EXPERIMENT STATION
KEITH ARNOLD, DIRECTOR

U.S. DEPARTMENT OF AGRICULTURE – FOREST SERVICE



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No. 0.73

No. 126

August 1957

CALIFORNIA CONE CROP--1957

Gilbert H. Schubert, Forester,
Division of Forest Management Research

California forest trees are expected to produce a good cone crop in only a few localities this year. Generally the crop is rated as none or very light. A medium or heavy crop is indicated in some seed zones; however, even in these zones the crop will vary greatly in different parts.

These are the main conclusions from a study of the cone-crop reports sent to the California Forest and Range Experiment Station by members of the California Division of Forestry, the California Region of the U. S. Forest Service, and the Southern California Edison Company.

The reports were generally based on occular estimates in which the crop was rated as none, very light, light, medium, or heavy, according to the cone crop classification used in Oregon. 1/ In this classification the cone crop ratings are:

1. None--no cones on any trees or few cones on occasional trees.

2. Very light--few cones on 25 percent of the trees, or few cones on 25 percent of the trees and many cones on occasional trees.

3. Light--few cones on 75 percent of the trees, or many cones on some trees and few cones on 75 percent of the trees.

4. Medium--some cones on all trees, or many cones on less than 75 percent of the trees.

5. Heavy--many cones on 75 percent of the trees and some cones on all trees, or many cones on all trees.

1/ Engstrom, W. H. Oregon cone crop, 1954. Oregon State Board of Forestry. Res. Note 16, 7 pp., 1954.

FOREST RESEARCH RECEIVED AUG 22 1957

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Although these ratings are subjective, they provide valuable information for those planning to collect seed this fall.

As an aid to seed collectors, the crop reports have been segregated according to the forest tree seed collection zones described by Fowells. 2/ This grouping (table 1), showed that the most promising localities for collecting seed of major commercial conifers--those with medium to heavy cone crops--were as follows:

	Seed Zone
Incense-cedar	III and IX
Douglas-fir	III and X
Red fir	II, III, V, VII, VIII, and XI
White fir	I, V, and VIII
Jeffrey pine	I, V, IX, and X
Ponderosa pine	I and IX
Sugar pine	IV and V

A map of the collection zones is appended to this note, but since the seed crop is spotty and varies widely in most zones, it is also advisable to consult field offices of the California Division of Forestry or the U. S. Forest Service to determine best areas to collect cones.

2/ Fowells, H. A. Forest tree seed collection zones in California. Calif. Forest and Range Expt. Sta. Res. Note 51, 5 pp., illus. 1946.

Table 1.--Summary of cone crops by species and seed zone, California, 1957

Species	Seed collection zone or county	Cone crop [1/]
CEDAR:		
Incense-cedar (*Libocedrus decurrens*)	I, VIII, X	None
	II, VII	None to very light
	IV, V	None to light
	III, IX	None to medium
DOUGLAS-FIR:		
Bigcone Douglas-fir (*Pseudotsuga macrocarpa*)	IX	Very light to light
Douglas-fir (*P. menziesii*)	IV, VIII, XII, Lake and Napa	None
	I, II, XIII	None to very light
	V, XI	None to light
	III, X	None to medium
FIR:		
Bristlecone fir (*Abies bracteata*)	XIII	Very light
California red fir (*A. magnifica*)	I, X	None to light
	II, III, V, VII, XI	None to medium
	VIII	None to heavy
Lowland white fir (*A. grandis*)	XI, XII, XIII	None
White fir (*A. concolor*)	VII, IX	None to very light
	II, III, IV, X, XI	None to light
	I, V, VIII	None to medium
PINE:		
Bishop pine (*Pinus muricata*)	X, XII	Very light
	XIII	Light to medium
Coulter pine (*P. coulteri*)	XIII	None to medium
	IX	Very light to medium

Species	Seed collection zone or county	Cone crop 1/
PINE: (continued)		
Jeffrey pine (P. jeffreyi)	XI	None
	II, VIII	None to very light
	III, IV, VII, XIII	None to light
	I, V, IX, X	None to medium
Knobcone pine (P. attenuata)	IX, X, XI, XIII	Light to medium
	I, III	Medium to heavy
Lodgepole pine (P. contorta)	V	None
	XII	None to very light
	I, VI, VII	Light to medium
	XIII	Medium
Monterey pine (P. radiata)	XIII	Heavy
Ponderosa pine (P. ponderosa)	XI, XIII, Lake and Napa	None
	VIII, X	None to very light
	II, III, IV, V	None to light
	I, IX	None to medium
Sugar pine (P. lambertiana)	VIII, IX, XI, XIII, Lake, Napa	None
	II	None to very light
	I, III, VII, X	None to light
	IV	None to medium
	V	None to heavy
Western white pine (P. monticola)	I, VII, VIII	None to medium
SEQUOIA:		
Giant sequoia (Sequoia gigantea)	IV	Very light
	V	Very light to medium
Redwood (S. sempervirens)	XII	Light
	XIII	Very light to medium

1/ Reported by technicians of the California Division of Forestry, the California Region of the U. S. Forest Service, the California Forest and Range Experiment Station, and the Southern California Edison Company.

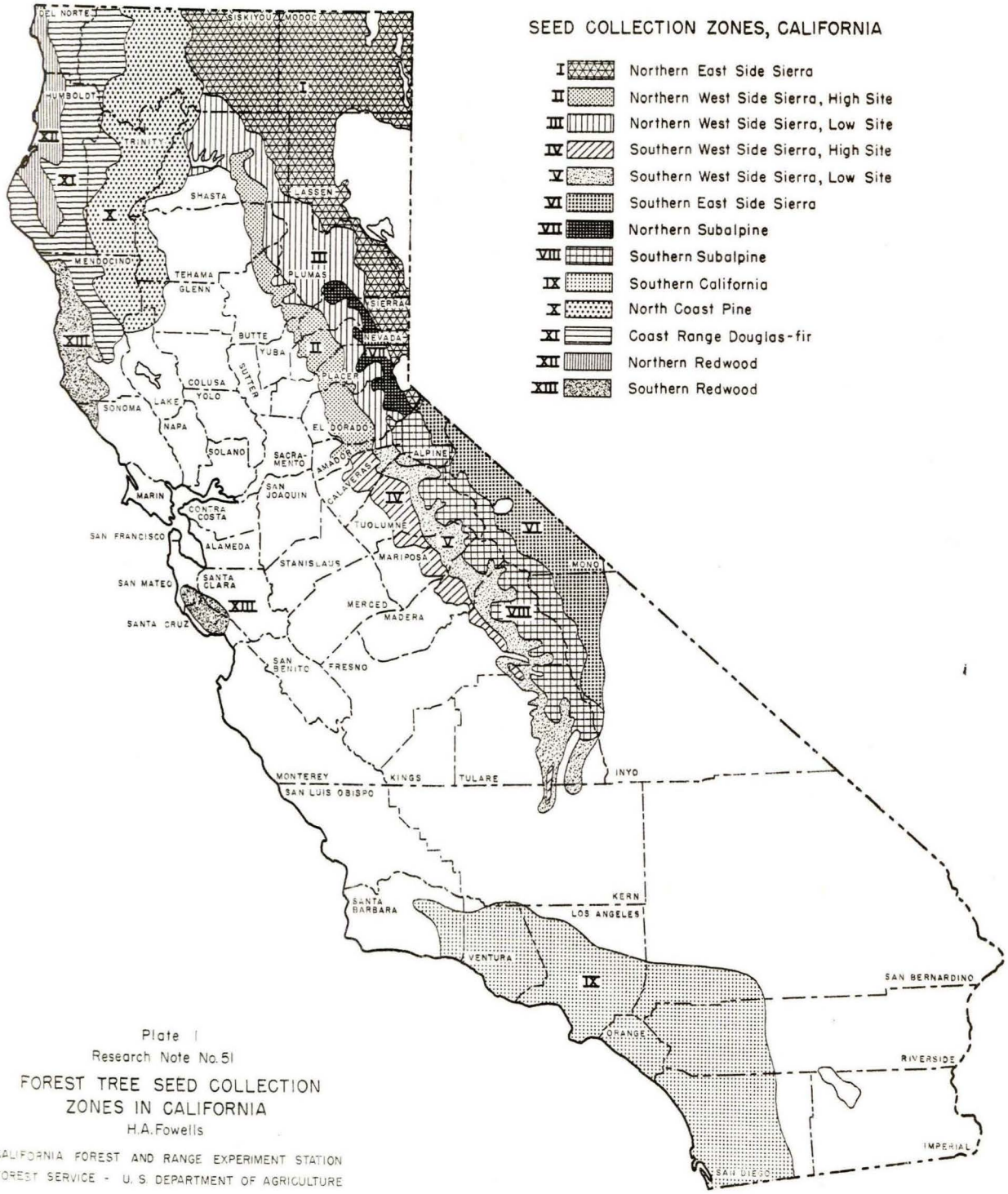

Plate I

Research Note No. 51

FOREST TREE SEED COLLECTION ZONES IN CALIFORNIA

H.A. Fowells

CALIFORNIA FOREST AND RANGE EXPERIMENT STATION
FOREST SERVICE - U. S. DEPARTMENT OF AGRICULTURE